

REMARKS/ARGUMENTS

Favorable reconsideration of this application, in light of the present amendments and following discussion, is respectfully requested.

Claims 1-9 are currently pending; Claims 5-8 have been withdrawn from consideration, and Claim 9 is newly added. Support for newly added Claim 9 can be found in Claims 1 and 2, for example. No new matter is added.

Furthermore, as new Claim 9 essentially includes the subject matter of Claim 2 without ZnCl_2 , it is clear that entry of the present amendment will not raise any new issues or require a further search.

In the outstanding Office Action, a restriction requirement was made, and Claims 5-8 were withdrawn from consideration as directed to a non-elected invention. Claims 1-3 were rejected under 35 U.S.C. § 103(a) as obvious over Timsit et al. (U.S. Patent No. 5,232,788, hereafter, "Timsit") in view of Evans et al. (U.S. Patent No. 5,771,962, hereafter, "Evans") and further in view of Paulman (U.S. Patent No. 5,544,698, hereafter "Paulman"); and Claim 4 was rejected under 35 U.S.C. § 103(a) as unpatentable over Timsit in view of Evans and further in view of Paulman and further in view of Key to Metals webpage, and further in view of Shepelev et al. (U.S. Patent No. 6,132,532, hereafter, "Shepelev").

Regarding the restriction requirement, Applicants traverse the outstanding Restriction requirement holding an election of Claims 1-4 based upon original claim presentation on the grounds that it has not been established that there would be an undue burden to examine each of the noted groups of claims together.

Under MPEP § 803, a Restriction is not proper if a search and examination can be made without a serious burden on the Examiner, and the outstanding Restriction requirement has not established that examining each of the currently-pending claims together would result in an undue burden.

MPEP § 803 specifically states:

If the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions.

The outstanding Restriction requirement has not established that each of the claims could not be examined together without an undue burden, and, thus, all of Claims 1-8 should be examined on the merits.

Regarding the rejection of Claims 1-3 as obvious over Timsit in view of Evans and further in view of Paulman, that rejection is respectfully traversed by the present response. As was explained in the last response, Timsit describes an aluminum alloy composite sheet for use in brazing to join aluminum components together without welding. As explained at col. 1, lines 7-21, by Timsit, a conventional brazing process includes placing an aluminum brazing alloy between or adjacent to the junction of the components to be joined. The brazing alloy must have a melting point lower than the melting point of the components to be joined because it is desired that as the brazing alloy is heated, it will melt and flow into the joint between the aluminum components, see col. 1, lines 12-13.

As further described by Timsit at col.1, lines 22-24, a “brazing sheet” can be prepared “by cladding a core aluminum alloy sheet on one or both faces with a sheet of the aluminum brazing alloy” as a substitute for the brazing alloy alone. As explained at col.1, lines 27-28, “[t]he typical brazing alloy for the cladding contains about 7.5% to 15% silicon.” As further explained at col. 1, lines 29-31, the use of such a high silicon alloy makes the brazing sheet “expensive to produce and scrap recovery procedures are difficult and expensive.”

To overcome these disadvantages, the stated intended purpose of Timsit (at col.1, lines 32-35) is to produce “a brazing sheet which is less expensive to produce and much easier to recover as scrap than is traditional brazing sheet.” While a coating of silicon (or other metal, like Cu, Ge, or Zn) and a brazing flux (potassium fluoroaluminate based or zinc

chloride based) are used, the purpose of the silicon or other metal is to form a eutectic alloy with the aluminum of a cladding layer on the core layer, see col. 1 lines 45-55. In addition, while magnesium can be present, the content must be less than 0.1% by weight. See col. 1, lines 58-63.

On the other hand, Evans describes joining components of a heat exchanger together with a controlled atmosphere brazing process. Clearly, the components to be joined include an aluminum based tube having a particular lithium-magnesium composition cladding layer. The content of the magnesium in the cladding is at least from about 0.1 to 2% as disclosed at col. 3, lines 46-48. Evans solves particular problems relative to using this cladding layer that is clearly different from the Timsit cladding layer by using a brazing flux including lithium fluoride or cesium fluoride or both in the brazing flux that is also clearly different than the Timsit brazing flux. See col. 2, lines 1-11, where Evans explains that the presence of lithium and/or cesium wets the joining surfaces better and forms larger fillets to increase joint quality and strength.

Clearly, the artisan seeking to practice the invention of Evans would have no reason to look to the coated and clad brazing sheet of Timsit as a substitute for the cladding layer and brazing flux of Evans or vice versa. This is because such a substitution would involve a complete redesign and destroy the basic operating principle involved in the different brazing approach of the reference so modified. *See In re Ratti*, 123 USPQ 349, 352 (CCPA 1959).

To the extent that the previous Action mailed December 13, 2004, which is referenced in the outstanding Action, may have been suggesting that the artisan would have a reason to use the Timsit suggested coating (having the silicon particles and potassium fluoroaluminate based or zinc chloride based brazing flux) in place of the Evans brazing flux (including lithium fluoride or cesium fluoride or both), this previous Action ignores the fact that each

reference teaches the use of different particular coating flux to achieve specific different intended purposes relative to either the particular improved brazing sheet of Timsit having a clad layer that is different from the particular clad layer of Evans. Thus, the artisan would have had no reasonable suggestion or motivation to substitute the Timsit coating for the Evans flux as the two different coatings are taught to be applied for different brazing processes to achieve different intended purposes. In this regard, reference modifications that would render a reference unsatisfactory for its intended purpose are also not obvious. See In re Gordon, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

Moreover the above noted requirement by Timsit that the magnesium content must be less than 0.1% by weight (see col. 1, lines 55-63) is not compatible with the Evans teaching that magnesium of about 0.1 to 2% can be present. The outstanding Action fails to explain any reason why this basic incompatibility and the above noted incompatibility of clad layers and flux coatings would not have actually led away from any attempt to combine these references. See *W.L. Gore & Associates v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 US 851 (1984).

Furthermore, neither the outstanding Action nor the previous Action mailed December 13, 2004, present any full and reasoned explanation of why the artisan would even consider the disparate Evans and Timsit references for combination. See *In re Lee*, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002) and the requirement there for the PTO to “explain the reasons one of ordinary skill would have been motivated to select the references and to combine them to render the claimed invention obvious” and the further requirement for a “full and reasoned explanation” at 277 F.3d 1342, 61 USPQ2d 1432-33.

Besides these deficiencies as to establishing reasonable motivation to modify Timsit in view of Evans or vice versa, the outstanding Action also lacks any presentation of reasonable motivation that would have led the artisan to modify either of these references by

what is taught by Paulman or vice versa. In this regard, page 3 (at lines 6-9) of the outstanding Action simply notes that “Paulman discloses that it was known in the art to employ a mixed coating of the type taught in Timsit et al. on the sides of multibore extruded tubes that includes filler (Si), flux material, zinc, and adhesive binder (see lines 3-8 of column 7 of Paulman).”

Missing from the outstanding Action is any acknowledgement that Claim 1 requires specific amounts of Si powder and Zn-containing flux to be applied to the Al extruded tube. Instead of these specific claimed amounts of Si or Zn-containing flux, the noted portion of Paulman simply suggests a coating 27 that has an adhesive binder vehicle, flux material and unknown amounts of silicon and zinc. The only thing in common between the coating 27 of Paulman and the mixed coating taught by Timsit is that both include Si and Zn with flux material, but the Si and Zn of Paulman is intended to achieve entirely different purposes as compared to the Si and Zn additives of Timsit. In this regard, and as noted above, the Timsit coating of silicon is used with the brazing flux (potassium fluoroaluminate based or zinc chloride based) over aluminum based clad layer in order to form a eutectic alloy with the aluminum of a cladding layer, see col. 1 lines 45-55. Paulman does not provide silicon for this eutectic alloy formation in conjunction with any cladding layer as the silicon is disclosed as being present to permit attachment of “normal unclad fin stock without the addition of brazing sheet materials,” i.e., without the cladding layer and core layer of the Timsit blazing sheet being present. Not only is the purpose for the Si powder entirely different, zinc is present in the coating 27 of Timsit to create an entirely different condition as to forming “a uniform protective layer by diffusion over the surface of the tube,” as taught at col. 7, lines 8-15 of Paulman and nowhere even hinted at by Timsit.

The questions not treated in the outstanding Action is why the artisan would pick these disparate references for any combination at all, much less one in which Si and Zn-

containing flux are present in amounts that are disclosed by Timsit to be for entirely different purposes. As noted above, the *Lee* decision requires the PTO to provide full and reasoned explanations as to these points and the *W.L. Gore & Associates v. Garlock, Inc.* decision requires an explanation as to why the above noted apparent differences in reference teachings would not have led the artisan away from any combination instead of towards it

In this last regard, the outstanding Action offers little in the way of motivation apart from an overbroad generalization that the mixed coating of Paulman is “of the type taught in Timsit et al.,” because both mention Si and Zn, albeit for different purposes, and the apparent assumption that simply showing it to be known to use a mixed coating of this “type” is sufficient to motivate the artisan to adopt the specific amounts of Si and Zn-containing flux taught by Timsit to be present to achieve different purposes. However, it is well settled that an obviousness rejection “cannot be predicated on the mere identification . . . of individual components of claimed limitations” in a reference, instead, to support the assertion that such individually disclosed components would have been combined by the artisan, “particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed.” *See In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000).

Therefore, Applicants respectfully submit that base Claim 1 and Claims 2 and 3 which depend from Claim 1 either directly or indirectly patentably distinguish over the cited references for at least the reasons discussed above.

The outstanding office action relies on the Key to Metals webpage and Shepelev to provide the feature recited in dependent Claim 4. As neither the Key to Metals webpage nor Shepelev remedy the deficiencies in Timsit, Evans, and/or Paulman as described above, Applicants respectfully submit that Claim 4 patentably distinguishes over all of these cited

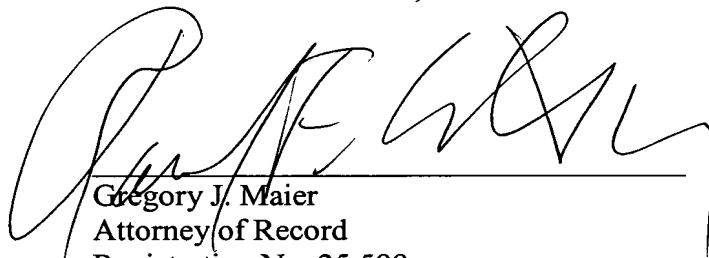
references for at least the same reasons as discussed regarding Claim 1 from which Claim 4 depends.

Newly added Claim 9 combines features of Claim 2 with all of the features of independent Claim 1. As newly added Claim 9 recites all of the features of rejected independent Claim 1, Applicants respectfully submit that no new issues are raised by the present amendment. Applicants further respectfully submit that newly added Claim 9 patentably distinguishes over the cited references for at least the same reasons as Claim 1.

Consequently, in view of the above discussion, it is respectfully submitted that the present application is in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Gregory J. Maier
Attorney of Record
Registration No. 25,599

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)
LS:smi

Raymond F. Cardillo, Jr.
Registration No. 40,440